

C l a i m s

1. Lubricating device for gear trains (10), especially for wind power stations, with at least two gear stages (16, 18) which are mounted next to one another and which are dynamically connected to one another, and a lubricant circuit (20) to which at least one filter unit (26) is connected, characterized in that on one gear stage (18) the lubricant which is circulating in the lubricant circuit (20) is drawn off, cleaned by the filter unit (26), and can then be supplied to the respective other gear stage (16).
2. The lubrication device as claimed in claim 1, wherein to implement splash lubrication, the gear stages (16, 18) each individually and at least partially pass through a type of immersion bath (28) with a lubricant reserve, which immersion bath has a subdivision (30) such that each gear stage (16, 18) is assigned its own bath area (32, 34).
3. The lubrication device as claimed in claim 2, wherein the subdivision and the lubricant amount in the immersion bath (28) are chosen such that overflowing lubricant (36) travels from one gear stage (16) with the lubricant supply (38) to the bath area (34) with the following gear stage (18) and with the lubricant removal (40).
4. The lubrication device as claimed in one of claims 1 to 3, wherein at least one gear stage (16) with the lubricant supply (38) is a planet gear and at least the other stage (18) with the lubricant removal (40) is a spur gear.
5. The lubrication device as claimed in one of claims 1 to 4, wherein the lubricant removal (40) consists of a suction device and the lubricant supply (38) consists of an injection device, and wherein in the gear housing (10) for the respective gear stage (16, 18) the indicated devices

(38, 40) mounted diagonally opposite one another extend through the upper and lower area of the housing (10).

6. The lubrication device as claimed in claim 5, wherein suction and injection of the lubricant and its circulation in the lubricant circuit (20) are effected by a motor pump unit (22).
7. The lubrication device as claimed in claim 6, wherein the filter unit (26) is mounted between the motor pump unit (22) and gear housing (10) in the lubricant circuit (20).
8. The lubrication device as claimed in one of claims 1 to 7, wherein in the direction of lubricant delivery the filter unit (26) first of all has a fine filter (44) which is safeguarded with a bypass (42), followed by a coarse filter (46) connected downstream in series.
9. The lubrication device as claimed in claim 8, wherein the filter fineness of the coarse filter (45) is chosen to be approximately 5 to 10 times greater than the filter fineness of the fine filter (44).
10. The lubrication device as claimed in one of claims 1 to 9, wherein as the filter unit (26) one is used as is described in DE 101 05 612 A1.